ENVIRONMENTAL NEWS

Newsletter of the N.H. Department of Environmental Services May/June 2006

Governor's Message

I believe that the State of New Hampshire should lead by example in protecting the environment, and encourage others to do the same. That is why I issued an Executive Order [2005-4] directing state agencies to cut their energy use, and that is why I am pleased to support the new Environmental Leadership Program that the Department of Environmental Services is developing to encourage better environmental management and sustainability.

Since the major environmental laws and regulations were established roughly 35 years ago, compliance has been the main goal. Now, many leading organizations have gone well beyond that – for them, compliance is no longer an end point, but the minimum requirement along a longer path to sustainability. While I recognize that there will always be some individuals who need enforcement to achieve the minimum standards, the time has come to use new tools and practices to encourage and help organizations to go beyond the minimum and achieve far better performance.

Governor Lynch

At the recent New Hampshire Business and Government Sustainability Roundtable meeting on March 8, my

Governor, *continued on page 2*

Study evaluates effect of coastal urbanization on water quality

Scientific data gathered in the coastal watershed show that increased impervious surfaces, like roads, parking lots and rooftops, degrade water quality.

The US Geological Survey (USGS), in cooperation with the New Hampshire Coastal Program (NHCP), recently released the report, "Effects of Urbanization on Stream Quality at Selected Sites in the Seacoast Region of New Hampshire," to support local planning and conservation efforts. State and local decision-makers concerned about the effects of urban development on water quality in the Seacoast region increasingly seek local scientific data to aid

New Hampshire's coastal communities, such as Hampton, face unprecedented increases in population growth and development.

Coastal Study, *continued on page 3*

Commissioner's Column

DES participates in statewide avian flu preparedness planning

Recent world news reports have been following the potential introduction of a disease-causing virus, known technically as the H5N1 strain of avian influenza, into the United States. As with any new challenge, DES has been actively engaged in the preparation of a coordinated response plan with its various partners, most notably the NH Department of Health and Human Services (DHHS) and other state and federal agencies. Farmers and poultry growers have long been dealing with various forms of this virus, but this new strain poses a somewhat different potential for infecting humans and that factor has DES and others focusing more attention on what can be done to isolate and control it, should it occur here.

The H5N1 strain has already spread among birds across Southeast Asia, the

Commissioner, *continued on page 8*

Governor

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staff was able to hear how leading organizations in New Hampshire are going well beyond regulatory standards, while improving their profitability. We need to foster such positive behavior. We need to ensure that government is not impeding such trends. We need to find ways to get more organizations to recognize the benefits of going beyond just compliance. And if we work together, we can make sure that sustainable business practices are the norm in New Hampshire.

I applaud the Department of Environmental Services for moving ahead with its new initiative to "encourage superior environmental performance through management systems, recognition and rewards," which will help us move forward on this front. I look forward to continuing to work with the Department of Environmental Services, other state agencies, and the business community for a cleaner and greener New Hampshire.

John Lynch, *Governor*

ARD and Earth Day

DES Air Resources Division hosted an open house at its air monitoring station on Peirce Island, Portsmouth (left top) in recognition of Earth Day. Air Technician Mike Little provided visitors with specifics on the station.

ARD also took part in the Discover WILD NH festivities on April 22 with a booth and the compressed natural gas car on display (left bottom).

Alternatives selected for Seacoast wastewater management feasibility study

Over 100 people from the New Hampshire Seacoast area attended a charrette to provide public input on the ten wastewater management alternatives that were being considered in the feasibility study. This input was used to reduce the number of alternatives to be studied from ten to four.

The Great Bay Estuaries Commission (GBEC) is presently overseeing a major feasibility study to consider options for long term regional wastewater management in the Seacoast area.

Based on input received at the charrette and other forums, four regional wastewater management alternatives were selected:

1. No action.

2. Treatment at existing wastewater treatment facilities (WWTFs) with a regional Gulf of Maine Discharge.

3. Decentralized treatment and continued use of existing WWTFs.

4. Treatment at existing WWTFs and discharge at land application sites.

For more information, visit www.coastalclear.org. ■

ENVIRONMENTAL NEWS

NHDES

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Coastal Study

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land-use planning efforts. The report can be used to develop science-based projects and policies, such as riparian buffer projects or for setting impervious surface limits.

The report details the results learned from a 2001-2003 study in the coastal watershed. USGS and NHCP staff observed stream quality degradation at a defined level of development and identified which measures of urbanization may be appropriate indicators of stream quality. The study is unique from others in the country because it provides scientific data about local watersheds and streams.

Ten sampling sites located in watersheds with similar characteristics, but varying in their degree of development, were selected for the study. Results show that sites with greater than 14 percent impervious surface in the watershed generally showed a decline in overall stream quality as indicated by physical, chemical, and biological sampling results.

Concentrations of chemical constituents were found to be higher in watersheds with a high percent of impervious surface than in watersheds with a low percent of impervious surface.

Results from this analysis also indicate that the percent of urban land use in stream buffer areas is a valuable indicator of steam quality. Specifically, stream buffers dominated by forested land appear to help maintain a better level of stream quality than buffers dominated by urban land. Sites with predominantly forested buffers showed the least water quality degradation.

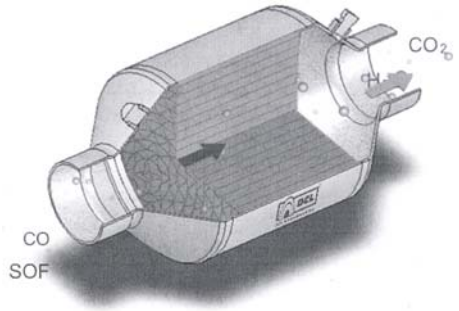
New Hampshire's coastal communities face unprecedented increases in population growth and development. A major effect of this urbanization is an increase in impervious surfaces. These surfaces add to the volume and velocity of stormwater, sending more pollutants and sediments through storm drains to waterways (New Hampshire Estuaries Project, 2003). The amount of impervious surface in the coastal watershed, which encompasses 43 towns in the Seacoast region, is steadily increasing. In 1990, the coastal watershed had 24,349 acres of impervious surfaces, which covered 4.7 percent of the watershed. In 2000, the total acreage of impervious surfaces had increased to 35,503, covering about 6.8 percent of the watershed (New Hampshire Estuaries Project, 2003).

The final report is available at http://pubs.water.usgs.gov/sir2005-5103/. For more information about the study, and how to use the information to further local projects, please contact Sally Soule, NHCP, at (603) 559-0032 or ssoule@des.state.nh.us, or Jeff Deacon, USGS, at (603) 226-7812 or jrdeacon@usgs.gov. ■

State approves vendor for School Bus retrofit project

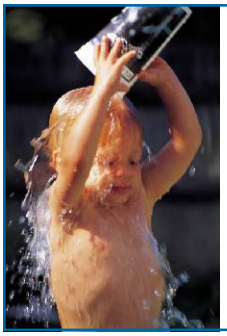
DES announced that Engine Control Systems Limited (ECS) was recently selected to provide cleaner exhaust systems, called diesel oxidation catalysts (DOCs), for 80 school buses in the Manchester and Nashua school districts. The project is being funded through an EPA Clean School Bus grant to demonstrate the effectiveness of diesel retrofit technology on school buses. The Manchester Transit Authority and First Student of Nashua provide school bus service for these districts, respectively.

Diesel oxidation catalysts are devices that use a chemical process to break down pollutants in the exhaust stream into less harmful components. Once installed, this DOC retrofit equipment will reduce particulate emissions by about 40 percent, carbon monoxide emissions by 40 percent and hydrocarbon emissions by up to 70 percent.



Diesel oxidation catalysts, which will be installed on Manchester and Nashua school buses, are effective for the control of carbon monoxide, hydrocarbons, odor causing compounds, and the soluble organic fraction of particulate matter.

A project kick-off meeting was held in April at the Manchester Transit Authority. At the meeting, ECS worked with the school bus partners to look at the equipment, determined which buses will be selected for installation, and scheduled training and installation. Using a cutaway of an actual DOC, ECS demonstrated how the equipment works to reduce school bus emissions. School buses were on hand so that people could see where and how the equipment is installed. ■



Celebrate National Drinking Water Week

May 7-13, 2006

NH P2 Program wins 2006 H2E Champion for Change Award

The New Hampshire Pollution Prevention Program (NHPPP) was awarded the Hospitals for a Healthy Environment (H2E) Champion for Change Award for the second year in a row. The award recognizes the NHPPP for their continued efforts to eliminate mercury use and promote the reduction of waste at health care facilities.

Since 2001, the NHPPP in partnership with the New Hampshire Hospital Association Foundation for Healthy Communities has coordinated the NH Hospitals for a Healthy Environment (NH3E), which meets quarterly to discuss waste reduction opportunities, environmental compliance improvements, and environmentally preferable purchasing options. This model has been implemented in five states and four communities and four more states will soon follow.

In addition to the NH3E efforts to reduce mercury use, the NHPPP has worked with nursing homes, physician offices, home health agencies, mental health clinics, dental offices, as well as with their associations to encourage environmental improvements through pollution prevention techniques and regulatory compliance issues.

NH P NEW HAMPSHIRE POLLUTION PREVENTION PROGRAM

Through the efforts of NHPPP, it has been estimated that almost 600 pounds of mercury has been removed from N.H. healthcare facilities.

For more information, contact Sara Johnson 603-271-6460, nhppp@des.state.nh.us, or www.des.nh.gov/nhppp/. ■

SAFETANK Program assists homeowners with outdated USTs

Plain and simple, New Hampshire relies on fuel oil. While it is a safe and reliable source of heat, age, exposure to weather, corrosion, or poor installation or maintenance can adversely affect a heating oil supply tank and its piping. This can result in spills that can cause contamination of groundwater, surface water and soil, along with degradation of indoor air quality, personal property damage, and potentially lower property values.

Aboveground storage tank. photo: Virginia DEQ

There are over a quarter million oil heat customers in New Hampshire, the majority of whom are residential. Residential and small business owners predominantly store their heating oil in small (275 gallon) aboveground tanks. A smaller but substantial number of tanks are underground and are not regulated by Administrative Rule Env-Wm 1401. An on-premise-use-facility (OPUF) is the portion of the heating oil tank system from the tank fill pipe to where the supply line connects to the furnace. The number of reported releases occurring every year from these OPUFs is a very small percentage of the total number of tank systems. However, as the existing tank population ages, more releases are being reported.

The ***average*** cost to clean up a residential oil release is over $15,000. The cost of several releases over the years has exceeded $100,000 each to clean up.

To prevent oil releases from substandard tanks, DES initiated a program to work with owners to bring their oil tank systems into compliance with National Fire Protection Association (NFPA) Chapter 31 and DES best management practices *by July 1, 2010*. Failure to achieve compliance by that date will prevent access to the New Hampshire petroleum reimbursement cleanup funds should an oil release occur.

Those homeowners who demonstrate financial need to meet the compliance requirements may apply for assistance through the SAFETANK Program. Additional reimbursement monies may be available to those homeowners who qualify for the removal and disposal of underground OPUFs. To qualify for the SAFETANK Program, the facility must be determined to be substandard, i.e., not meeting code, *and*, along with other qualifying conditions, the total household income must meet the definition of "low-income" by the US Department of Housing and Urban Development. Applications are prioritized and processed based on environmental risk factors specific to the site, the condition of the existing tank system, and the potential of a release.

Eligible homeowners must complete an application and submit it to DES for approval before any work is conducted. Applications are available by contacting DES. They may also be available through your oil company. Questions regarding this program may be directed to Jack Chwasciak, DES SAFETANK Release Prevention Coordinator, at (603) 271-3644. ■

State settles landfill pollution case with Waste Management of NH, Inc.

DES Commissioner Michael Nolin and Attorney General Kelly A. Ayotte recently announced that a state court has approved a $1.75 million settlement with Waste Management of New Hampshire, Inc. for alleged environmental violations at the Turnkey Landfill in Rochester.

The state's lawsuit against Waste Management alleges violations of air pollution rules and permits starting in 2002, including failure to control landfill gases produced by decomposing solid waste at the landfill. Without admitting liability, Waste Management agreed in the settlement to exceed minimum environmental requirements for controlling and monitoring landfill gases. Among other improvements, the company has committed to installing new flares that burn off the gases and adding air monitors around the landfill to confirm that landfill gases do not pose any threat to the health of local residents. The company has already invested significant resources since July 2004 to upgrade the landfill gas collection system at the landfill.

The $1.75 million civil penalty must be paid over the next three years in the form of an immediate cash payment of $350,000 to the state and payment of $1.4 million to "supplemental environmental projects."

A gas extraction well and piping at Turnkey Landfill (foreground) used to collect landfill gas. An active waste receiving area is visible in the background on the right.

The largest project is a proposed landfill gas-to-energy project being studied by the University of New Hampshire. Under the settlement, Waste Management will fund $1.2 million of the capital costs required to pipe methane gas from the Turnkey Landfill to the UNH campus to fuel a new energy-saving cogeneration heating plant. The project will help to reduce long-term energy costs for UNH. It is in the early stages and is currently under review by the UNH Board of Trustees.

In addition, the cities of Dover and Rochester will each receive $100,000 for local projects to reduce air pollution, such as energy efficiency improvements and use of cleaner fuels. The cities' proposed projects must be pre-approved by DES.

Commenting on the settlement, Commissioner Nolin said, "I am very pleased that, with Waste Management's cooperation, local communities can count on enhanced environmental monitoring and odor control practices at the landfill. They can also expect significant funding for projects designed to reduce air pollution, increase energy efficiency and reduce dependence on costly fossil fuels."

For further information, please contact Pam Monroe, Compliance Bureau Administrator, DES Air Resources Division, at (603) 271-0882 or pmonroe@des.state.nh.us. ■

Air quality program gears up for summer

May 15-19: Air Quality Awareness Week

Summertime typically brings warm weather to New Hampshire, but it can also bring increased levels of air pollution, especially ground-level ozone or smog. Poor air quality is a significant health concern for people who suffer from respiratory diseases such as asthma. When unhealthy air quality is expected, DES declares an Air Quality Action Day and advises people to take precautionary measures to protect their health.

To stay informed about current air quality conditions and forecasts:

- Go to www.airquality.nh.gov.
- Call the 24-hour, toll-free Air Quality Information Line at 1-800-935-SMOG.
- Watch or listen for Air Quality Action Day announcements on local media.

Know what you can do to protect your health on unhealthy air days. To receive New Hampshire air quality alerts, contact Kathy Brockett at kbrockett@des.state.nh.us or (603) 271-6284. Sign up for EPA's air quality alerts at www.epa.gov/region01/airquality/smogform.html.

EPA, the National Oceanic and Atmospheric Administration, and many states, including New Hampshire, are celebrating Air Quality Awareness Week during the week of May 15-19. The week is designated each year at the start of ozone season as a time for agencies and organizations to raise public awareness of air quality and its associated health impacts. Stay tuned for announcements of future air-related events. ■

Transitioning from MtBE to ethanol – Part Two

By Gary Lynn, P.E., and Lynn Woodard, DES Oil Remediation and Compliance

In January of this year, New Hampshire consumers were first introduced to gasoline containing 10 percent ethanol (E-10). At least one major distributor has already completed replacement of MtBE with ethanol, although the statutory requirement to remove MtBE from gasoline in New Hampshire does not take effect until January 1, 2007. Other major terminals intending to make the switch will be completed by the end of June. Not all terminals supplying product to New Hampshire distributors, however, will make the change to ethanol. Most, if not all terminals located in the Boston area are preparing to incorporate ethanol in the gasoline. Those terminals located in Portland, Maine, have elected to use non-oxygenated additives to obtain the octane needed.

Outside of Hillsboro, Merrimack, Rockingham or Strafford counties where ethanol will typically be used, you may or may not be using E-10 gasoline. Several major oil companies have stated that once the change is made to E-10, they will deliver only E-10 gas no matter where in the state the stations are located. Others may elect to obtain product from Portland or other terminal locations that do not use ethanol. If this information is important to you, look to see if the dispensers are labeled, or ask the station owner/operator.

The average consumer should not notice a difference. Fuel economy should change little with a slight decrease of 1 percent to 4 percent anticipated. Most automobiles, recreational vehicles, and other motorized tools manufactured after 1980 were constructed to be compatible with the use of up to a 10 percent ethanol-blend gasoline. Vintage vehicles and motorized tools manufactured prior to 1980 may or may not be compatible with an ethanol-blend gasoline. Gaskets, seals, filters, and some hoses in these vintage machines may soften over time and cause problems. If in doubt, refer to your owner's manual or contact the manufacturer for advice.

Since the first of January, the DES Oil Remediation and Compliance Bureau staff has informed storage tank facility owners and contractors on how to prepare their tanks to receive the ethanol-blend gasoline. Owners have been briefed on the need to keep their tanks water- and sludge-free to reduce phase separation and other issues that could occur during the transition period. In addition, members of the Legislature and the news media have been provided with a timetable and expectations for the transition.

For more information on the transition to ethanol, please go to www.des.nh.gov/MtBEtrans.html. ■

Did you know ...

... If the average person biked to work once every two weeks instead of driving, we could prevent the pollution of close to one billion gallons of gasoline from entering the atmosphere every year!

... Over 22 percent of all motor vehicle trips Americans take are less than one mile long, and 50 percent of the working population commutes five miles or less to work, an easily bikeable distance.

... Bicycling is part of the solution to a whole range of challenges: the high cost of gasoline, traffic congestion, air pollution, rising obesity rates, and more.

2005 Employee of the Year – Rick Berry

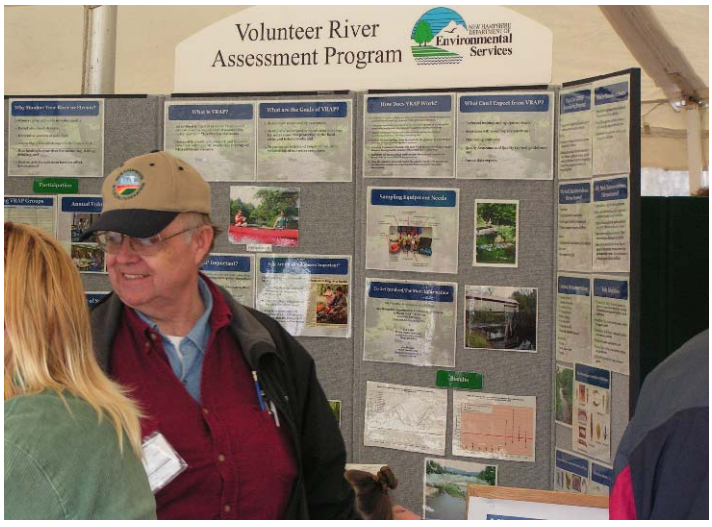
Rick Berry was named the 2005 DES Employee of the Year for his tireless work during the cleanup associated with the flood in Alstead. As the supervisor of the Spill Response and Complaint Investigation Section, Rick oversaw, among other things, the cleanup of a residential oil tank that was deposited on the banks of the Cold River, the removal of underground gasoline storage tanks, and the collection and disposal of petroleum products and hazardous materials at the Department of Transportation staging areas. Many days, including weekends and holidays, Rick worked 12 to 14 hours to ensure that the environmental cleanup took place as rapidly and cost-effectively as possible. His supervisory skills and demeanor were exactly what was needed to reduce the anxiety, deal with the matter at hand and do all the miscellaneous deeds that were accomplished.

Without question, many staff members contributed long days and dedicated effort to the flood events of 2005, but Rick's unselfish and tireless commitment to this project was truly outstanding. Congratulations, Rick, for this much deserved award. ■

On April 5, 2006, Gov. Lynch, the Executive Council, and DES officials recognized 13 auto recyclers for becoming New Hampshire's first Certified N.H. Green Yards, a distinction reserved for auto salvage yards that use exemplary environmental work practices. DES, working with the N.H. Auto & Truck Recyclers Association, developed the pilot Certified N.H. Green Yard Program to improve environmental performance at auto salvage yards and provide incentives for going beyond compliance.

More photos from Earth Day 2006

Kids check out a DES nonpoint source pollution display (at right) and the rivers program (below) had a booth at Discover WILD NH Day on April 22. A total of 17 DES programs were represented at the festivities.



State funds Atlantic salmon project by Keene students

DES has funded a project to improve water quality and restore habitat in Beaver Brook in Keene. The project will identify pollutant sources and raise public awareness of pollution sources such as stormwater runoff. The program also intends to restore habitat along Beaver Brook. The City of Keene and Franklin School teacher Andrea Dube and her class of fifth graders are participating in the project by raising awareness about the importance of good water quality by re-introducing Atlantic salmon into Beaver Brook this spring.

DES Commissioner Michael Nolin stated, "As stewards of Beaver Brook, the students provide a wonderful example of environmental protection to the community. DES is proud to be a part of this Atlantic salmon rearing and release program."

Two-hundred Atlantic salmon eggs arrived at Franklin School in Keene in late January 2006 from the White River National Fish Hatchery at White River Junction, Vt. Andrea Dube and Eric Swope, an employee of the city of Keene, prepared their 36 eager students for the salmon's arrival by teaching them about watersheds, what good water quality means for the survival of salmon, the lifecycle of the salmon, and what they can do to keep pollutants out of the brook.

A developing salmon at this life stage is called a "sac fry." photo: www.coastofbays.nf.ca

The NH Fish and Game Department has similar fish stocking projects in parts of the Connecticut River and Ashuelot River. The salmon from Beaver Brook will eventually swim these rivers on their way to the ocean.

For more information on the project to improve water quality and habitat restoration project in Beaver Brook, contact Natalie Landry at (603) 559-1507. ■

www.des.nh.gov

Commissioner

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Middle East and parts of Africa and Europe. This strain of avian flu is easily transmitted between birds, and is particularly lethal for domestic birds. Millions of domestic birds have died or been killed in an attempt to limit or contain the outbreak. Within a few months, the effects of H5N1 are expected to extend worldwide. The virus has caused severe illness and a high rate of mortality in people who have been exposed to it through contact with infected birds. Scientists fear that the virus will mutate and be passed from human-to-human, a change that could fuel a broader pandemic.

DES personnel recently participated in a region-wide workshop, sponsored by EPA Region I and the interstate association, Northeast Waste Management Officials' Association. The purpose of the workshop was to discuss and coordinate environmental agency preparations in anticipation of the arrival of the H5N1 virus in North America. Prevention of transmission and containment of outbreaks will be critical to control impacts to domestic poultry breeders and to decrease human health risks. In addition, DES will join DHHS and other state and federal agencies, as well as other public health and emergency management/response leaders from across the state, to discuss this issue in more detail at a pandemic planning summit on May 26, 2006. For more information, go to http://pandemicflu.gov/plan/states/nhampshire.html.

In conjunction with preparing for an avian flu outbreak, DES is also in the process of developing its own *internal* pandemic influenza emergency strategy, commonly known as a "continuity of operations" plan. The critical role of DES during such an emergency response requires that personnel be available in the face of excessive staff absenteeism to assist its partners in operating water and wastewater systems, conducting health risk assessments, managing the disposal of infected birds and/or other livestock carcasses (whether wild or domestic species), and offering its expertise to ensure that any such outbreak is kept isolated and contained. To ensure continued and consistent implementation of its assigned emergency support functions, the DES Continuity of Operations Plan will be modeled closely to that of the influenza pandemic preparedness strategy created by US Department of Health and Human Services and its Centers for Disease Control and Prevention.

Although there is no immediate threat to the state or cause for alarm, critical planning is nonetheless necessary to ensure that we are prepared for any type of threat to the health and well-being of those who live, work and play in New Hampshire.

Michael P. Nolin, *Commissioner*

Fourth Annual Bike & Walk to Work Day, May 19

DES, other state agencies, and communities across the state are urging people to leave their cars at home and bike or walk to work on Friday, May 19.

The annual **Bike and Walk to Work Day** is part of a state and national effort to get people out of their cars and experience the benefits of exercise, less air pollution and less traffic congestion. Events will be held at various communities across the state, including check-in station breakfasts, participant prizes and raffles, and special challenges.

Gov. Lynch and Concord Mayor Michael Donovan pose in front of the Capitol with their Bike and Walk to Work Day T-shirts at one of last year's events.

Bike and Walk to Work Day is sponsored by the NH Department of Transportation's Bike/Pedestrian Program and the Bike and Walk Alliance of NH, along with numerous public, private and community organizations across the state. For more information, visit www.bwanh.org or call Jerry Moore, NH Bike/Pedestrian Program, at 271-3320. ■

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

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